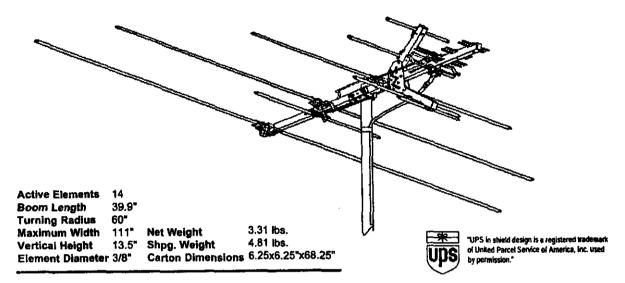


engineering specifications

Model PR-7005



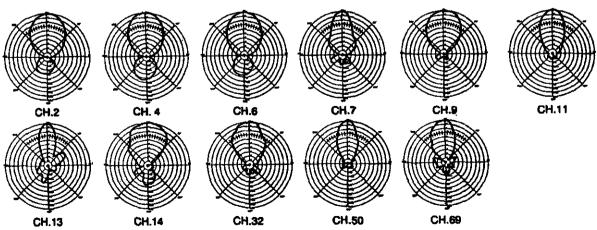
Output Impedance:

300 ohm / 75 ohm with included transformer

Recommended Preamp: AP Series

Made in U.S.A.

CHANNEL	CH.2	CH.4	CH.6	CH.7	CH.9	CH.11	CH.13	CH.14	CH.32	CH.50	CH.69
dB gain over reference dipole	.6	2.6	1.6	6.1	6.1	6.2	5.3	3.7	5.1	6	6
beamwidth at half power points	84°	75*	73°	38°	70°	48*	33*	85°	65°	32°	46°
front-to-back ratio	8dB	5dB	73dB	10.5dB	14dB	18dB	8dB	7dB	10.5dB	16dB	10.5dB

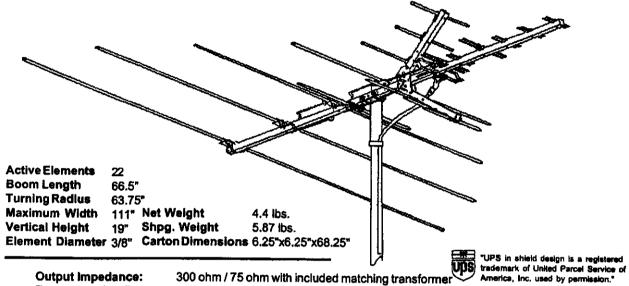


Printed in U.S.A. Winegard Company, 3000 Kirkwood St., Burlington, IA 52601-2000 Rev. 6/01



engineering specifications

Model PR-7010



Output Impedance:

300 ohm / 75 ohm with included matching transformer

Recommended Preamp: AP Series

Made in U.S.A.

CHANNEL	CH.2	CH.4	CH.6	CH.7	CH.9	CH.11	CH.13	CH.14	CH.32	CH.50	CH.69
dB gain over reference dipole	2.3	3.6	1.9	6.8	6.8	7.3	6.3	8.1	8	8.3	7
beamwidth at half power points	75°	77*	77*	36*	36*	43*	37*	73*	40°	37°	39*
front-to-back ratio	9dB	9dB	10.5dB	11.5dB	8dB	8dB	10dB	7dB	12.5dB	19dB	15dB

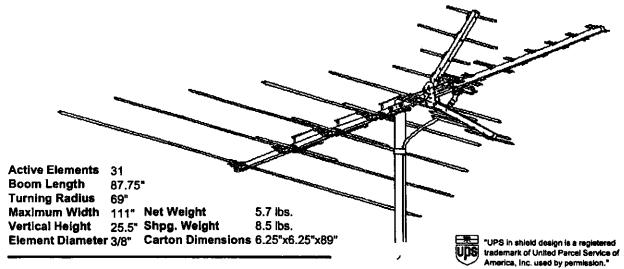
POLAR PATTERNS CH.6 **CH.7 CH.9** CH.11 CH.14 CH.32 CH.69

Printed in U.S.A. Winegard Company, 3000 Kirkwood St., Burlington, IA 52601-2000 Rev. 6/01



engineering specifications

Model PR-7015



Output Impedance:

300 ohm / 75 ohm with included matching transformer

Recommended Preamp: AP Series

Made in U.S.A.

CHANNEL	CH.2	CH.4	CH.6	CH.7	CH.9	CH.11	CH.13	CH.14	CH.32	CH.50	CH.69
dB gain over reference dipole	3.9	4.1	2.5	7.5	7.5	8	7	9.4	9.9	9.8	8.2
beamwidth at half power points	- 75°	74°	77*	32°	32*	47*	40*	57*	54°	38°	25°
front-to-back ratio	10.5 d B	12dB	13dB	13dB	12.5dB	8dB	14.5dB	14dB	17dB	greater than 20dB	13dB

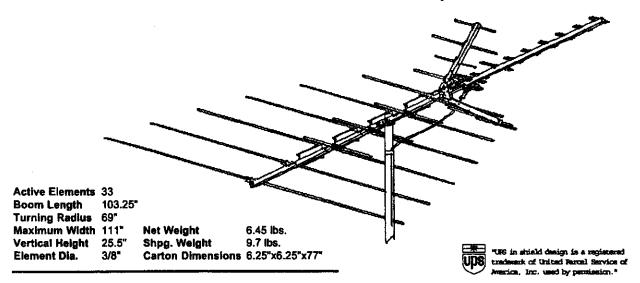
POLAR PATTERNS CH.2 CH.4 CH.6 CH.7 CH.9 CH.11 CH.13 CH.14 CH.32 CH.50 CH.69

Printed in U.S.A. Winegard Company, 3000 Kirkwood St., Burlington, 1A 52601-2000 Rev. 6/01



engineering specifications

Model PR-7032



Output Impedance:

300 ohm / 75 ohm with included matching transformer

Recommended Preamp: AP Series

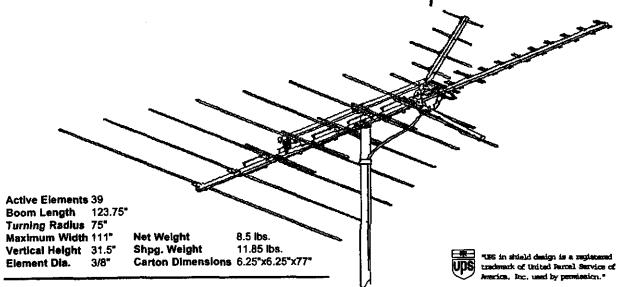
Made in U.S.A.

CHANNEL	CH.2	CH.4	CH.6	CH.7	CH.9	CH.11	CH.13	CH.14	CH.32	CH.50	CH.69
dB gain over reference dipole	4.6	5	3	8	7.8	8.3	7.5	9.4	10	10	8.5
beamwidth at half power points	73°	75°	77*	32*	34*	33*	40°	56*	55°	37*	27*
front-to-back ratio	18dB	13dB	14dB	16dB	15dB	11dB	17dB	17dB	20dB	greater then 20dB	17dB



engineering specifications

Model PR-7037



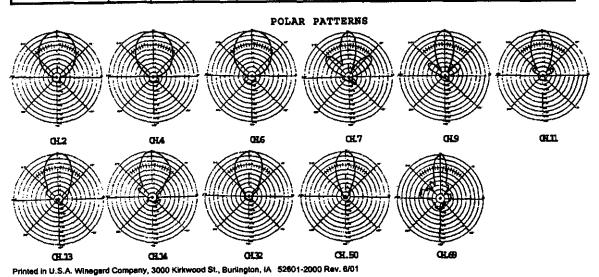
Output Imdedance:

300 ohm / 75 ohm with included matching transformer

Recommended Preamp: AP Series

Made in U.S.A.

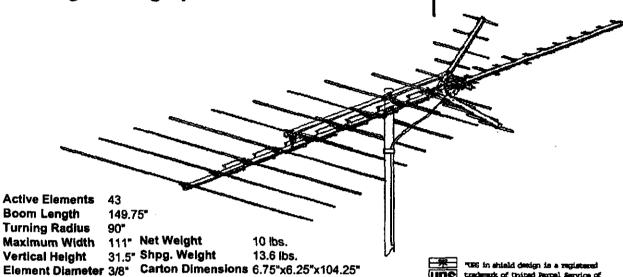
CHANNEL	CH.2	CH.4	CH.6	CH.7	CH.9	CH.11	CH.13	CH.14	CH.32	CH.50	CH.69
dB gain over reference dipole	5.4	5.7	4.2	9.1	9.6	8.8	8.1	10.8	11.1	11.4	10.3
beamwidth at half power points	71*	72"	74*	27*	33*	39*	50°	57*	52*	34*	24"
front-to-back ratio	20dB	17dB	15dB	13dB	18dB	19dB	greater than 20dB	17dB	20dB	greater than 20dB	12dB





engineering specifications

Model PR-7042



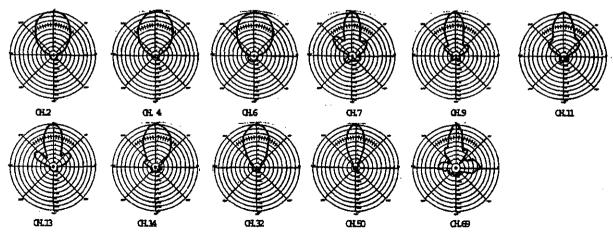
Output Impedance:

300 ohm / 75 ohm with included matching transformer

Recommended Preamp: AP Series

Made in U.S.A.

CHANNEL	CH.2	CH.4	CH.6	CH.7	CH.9	CH.11	CH.13	CH.14	CH.32	CH.50	CH.69
dB gain over reference dipole	6	6.4	5	10.2	10	9.5	9.3	10.8	11.3	11.7	10.8
beamwidth at half power points	72°	70°	73*	31°	36°	39*	33*	55°	50°	34*	24*
front-to-back ratio	20dB	greater than 20dB	17dB	14dB	18dB	17dB	19.5dB	17dB	20dB	greater than 20dB	14dB

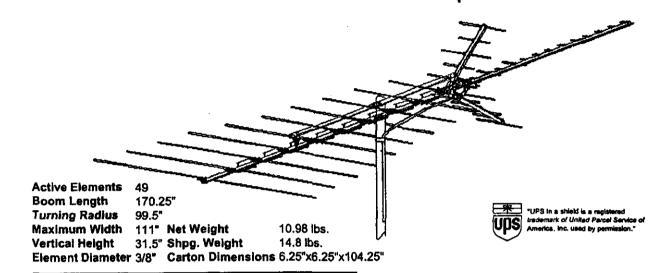


Printed in U.S.A. Winegard Company, 3000 Kirkwood St., Burlington, IA 52601-2000 Rev. 6/01



engineering specifications

Model PR-7052



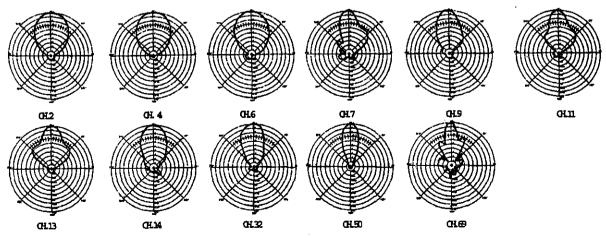
Output Impedance:

300 ohm / 75 ohm with included transformer

Recommended Preamp: AP Series

Made in U.S.A.

CHANNEL	CH.2	CH.4	CH.6	CH.7	CH.9	CH.11	CH.13	CH.14	CH.32	CH.50	CH.69
dB gain over reference dipole	6.8	6.9	6	10.5	10.4	10	9.8	12.3	12.8	12.5	12.1
beamwidth at half power points	69*	69•	70°	35*	43°	38*	43°	51°	45°	31*	23*
front-to-back ratio	20dB	greater than 20dB	18dB	12dB	18.5dB	18dB	20dB	14dB	19dB	greater than 20dB	14dB

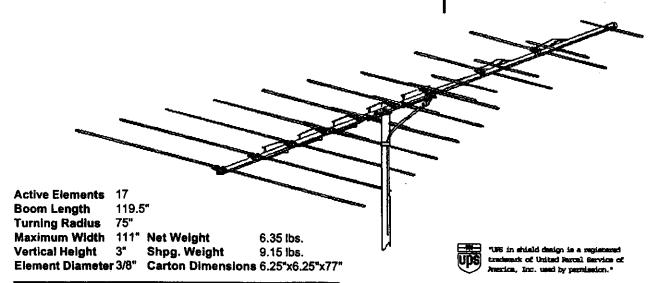


Printed in U.S.A. Winegard Company, 3000 Kirkwood St., Burlington, IA 52601-2000 Rev. 6/01



engineering specifications

Model PR-5030



Output Impedance:

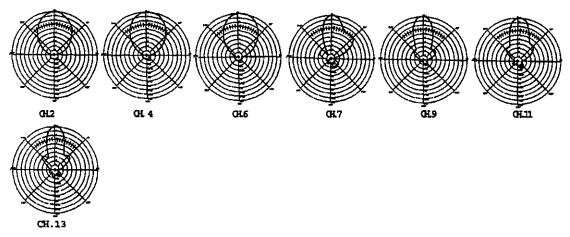
300 ohm / 75 ohm with included transformer

Recommended Preamp: AP Series

Made in U.S.A.

CHANNEL	CH.2	CH.4	CH.6	CH.7	CH.9	CH.11	CH.13
dB gain over reference dipole	5.1	5.0	7.0	7.5	9.5	7.7	8.2
beamwidth at half power points	_ 68°	70°	70°	41*	36°	36*	33*
front-to-back ratio	19dB	greater then 20dB	greater than 20dB	13dB	18dB	16dB	15dB

POLAR PATTERNS



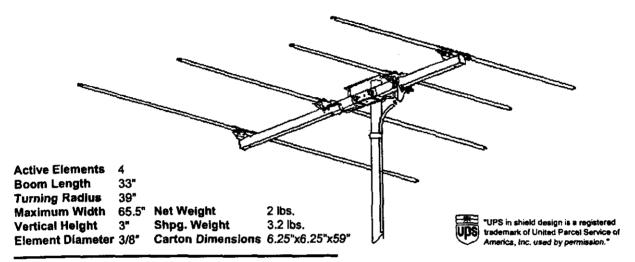
Printed in U.S.A. Winegard Company, 3000 Kirloscod St., Burlington, IA 52601-2000 Rev. 6/01



PROSTAR® 1000 FM ANTENNA

engineering specifications

Model PR-6000



Output Impedance:

300 ohm / 75 ohm with included transformer

Recommended Preamp: AP Series

Made in U.S.A.

CHANNEL	88MHz	98MHz	108MHz
dB gain over reference dipole	5	5	5.2
beamwidth at half power points	67°	72*	71*
front-to-back	6dB	14dB	16dB







PROSTAR® 1000 FM **ANTENNA**

Model PR-6010

engineering specifications

Active Elements 10" 41" Maximum Width 67" **Net Weight** 1.5 lbs. 10" Shpg. Weight 2.65 lbs. Element Diameter 3/8" Carton Dimensions 6.25"x6.25"x42" **Output Impedance:** 300 ohm / 75 ohm with included transformer

"UPS in shield design is a registered trademark of United Parcel Service of America, inc. used by permission

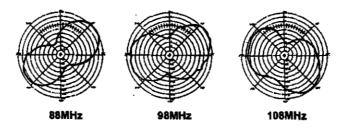
Made in U.S.A.

Recommended Preamp: AP Series

Boom Length

Turning Radius

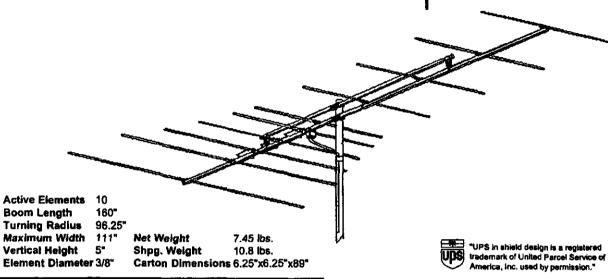
Vertical Height





engineering specifications

Model YA-1026

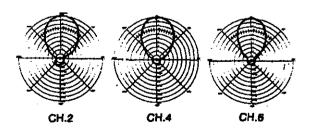


Output Impedance: Recommended Preamp: AP Series

75 ohm

Made in U.S.A.

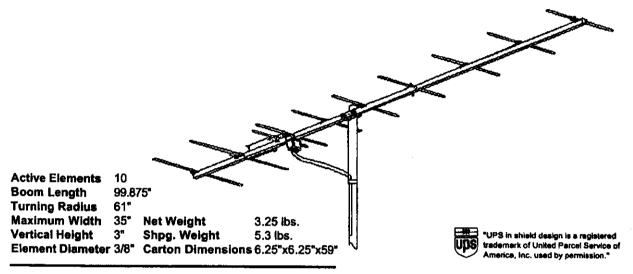
CHANNEL	CH.2	CH.4	CH.6
dB gain over reference dipole	4.6	5.7	6.0
beamwidth at half power points	70°	66*	58*
front-to-back ratio	16dB	20dB	greater than 20 dB





engineering specifications

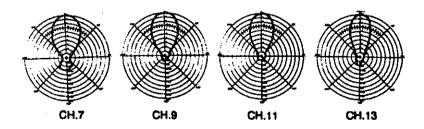
Model YA-1713



Output Impedance: 75 ohm Recommended Preamp: AP Series

Made in U.S.A.

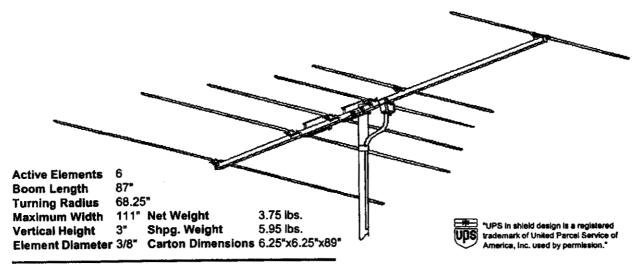
CHANNEL	CH.7	CH.9	CH.11	CH.13
dB gain over reference dipole	9.1	10	10	10,3
beamwidth at half power points	56*	55°	47*	40°
front-to-back ratio	10.5dB	18dB	19dB	14dB





engineering specifications

Model YA-6260



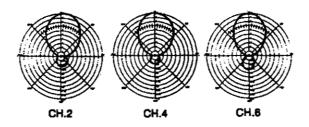
Output Impedance:

75 ohm

Recommended Preamp: AP Series

Made in U.S.A.

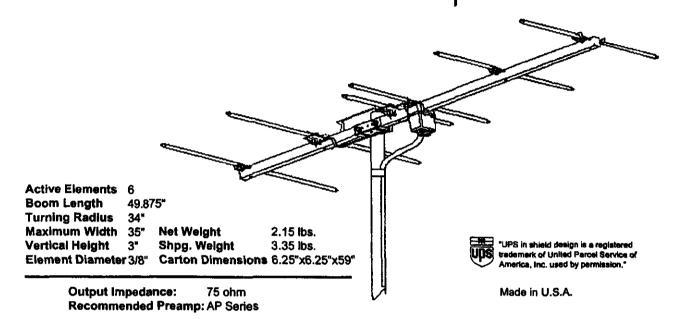
CHANNEL	CH.2	CH.4	CH.6
dB gain over reference dipole	3.9	4	5
beamwidth at half power points	72°	74*	64°
front-to-back ratio	12dB	14dB	9.5 d B



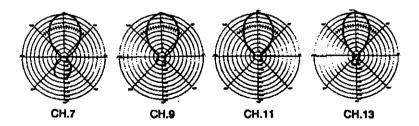


engineering specifications

Model YA-6713

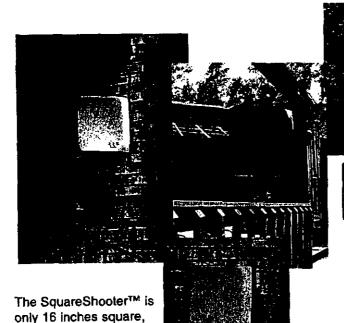


CHANNEL	CH.7	CH.9	CH.11	CH.13	
dB gain over reference dipole	6.8	7.3	7.2	6.8	
beamwidth at half power points	64°	63*	60°	53*	
front-to-back ratio	6dB	14dB	18dB	12.5dB	





HDTV.2 SquareShooter Antenna System



Get swotty

Mounting options for the Square Shooter:

- Wall mount
- Roof mount
- Rail mountFloor

ing on the model -SS-1000 or SS-2000 (amplified).

but receives and reso-

nates analog and HDTV signals 40-50 miles from the transmitter, depend-

Its small size and design allows for versatile mounting locations such as walls, roofs, patios, attics and railings. Plus, the SquareShooterTM can be mounted above a satellite dish using Winegard's DS-1000 home satellite mounting kit and diplexed with the existing satellite coax cable, incorporating both the satellite and SquareShooterTM Off-Air signals on one cable.

Both models have a very high 20 to 1 frontto-back ratios and were specifically designed for urban/metropolitan locations where line-of-sight to the transmit source is blocked. Scatter-Plane technology neutralizes reflected, out-of-phase signals arriving at the back of the antenna element. This provides the SquareShooter™ its muscle to reject multi-path signal (ghosting) and the ability to tune into the desired reflected signal for the best reception characteristics so critical for downtown urban locations.

The SS-2000 is equipped with Winegard's new digital preamp specifically designed for digital reception with an input level of 300,000 mV and 12 dB flat gain across the entire bandpass. This design ensures proper digital demodulation for the Square Shooter™ antennas.

GET2_{TM}

GETHDTV2,

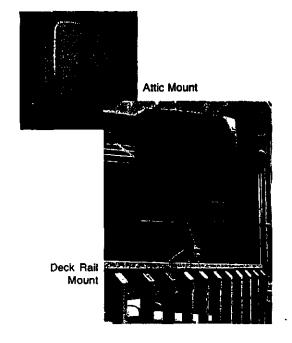
GFTSquareShooter

TH



HDTV.² SquareShooter™ Antenna System

Models SS-1000 & SS-2000



Model SS-1000/SS-2000 Avg. beamwidth 61° Avg. VSWR across band 1.3:1 Avg. Front to back 13 db Avg. gain across band 470-806 4.5 db Maximum Width Housing 16" x 16" x 4" Preamp gain (SS-2000) 300,000 μV Total Input S/N ratio 2.8 db VHF 12 dB avg. UHF 12 dB avg.

GENERAL RECEPTION GUIDELINES				
	ANALOG	DIGITAL		
VHF Ch. 2-6	0-10 miles	0-15 miles		
VHF Ch. 7-13	0-35 miles	0-40 miles		
UHF Ch. 14-69	0-45 miles	0-50 miles		

Made in U.S.A. Patent Pending Ships UPS

Channel	CH. 7	CH. 10	CH. 14	CH.32	CH.56	CH. 69
Frequency	175.25 MHz	193.25 MHz	471.25 MHz	579.25 MHz	723.25 MHz	805.75 MHz
Beamwidth at half power points	95°	93°	68°	67°	58°	54°
Front-to-back ratio	6.0 db	2.6 db	20db	16 db	12.5 db	12 db

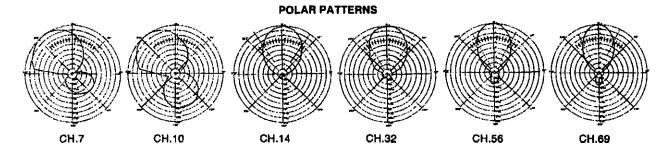




Exhibit 2 Low Noise Amplifiers



A----



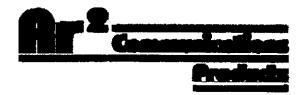
Special Frequency GaAsFET Preamplifiers

For over fifteen years, Advanced Receiver Research has produced low noise figure Gallium Arsenide amplifiers for a wide variety of frequencies and applications. Over these years we have assembled quite a "cookbook" that allows us to handle orders for these "special" frequency ranges with the same quick delivery as standard off the shelf units. We do not charge a premium for this service - custom frequency preamplifiers cost no more than our standard units! Listed below are some of the more popular "special" frequency amplifiers that we have built. If you don't see exactly what you need please call as chances are good we can supply you with a custom preamplifier.

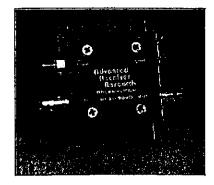
Frequency Range	N.F	Gain	Application	
1.0 - 30	2.5	20	shortwave	
1.8 -2.0	0.5	26	amateur	
3.3	0.5	26	nmr/mri	
3.5 - 4.0	0.5	26	amateur	
7.0 - 7.4	0.5	26	amateur	
15	0.5	26	nmr/mri	
16	0.5	26	nmr/mri	
21	0.5	26	nmr/mri	
21 - 21.5	0.5	26	amateur	
28 - 30	0.5	26	amateur	
30 - 1000	3.5	11	broad band	
30 - 50 (narrow tune)	0.5	26	commercial	
34	0.5	26	nmr/mri	
43	0.5	26	កពា/ការាំ	
49	0.5	26	cordless telephone	
50 - 54	0.5	24	amateur	
51	0.5	24	nmr/mri	
54 - 60	0.5	24	television	
60 - 66	0.5	24	television	
66 - 72	0.5	24	television	
70 -	0.5	24	nmr/mri	
72	0.5	24	remote control	
72 - 76	0.5	24	paging/linking	
73 - 74	0.5	24	radio astronomy	
76 - 82	0.5	24	television	
82 - 88	0.5	24	television	
85	0.5	24	nmr/mri	
88 - 108 (broad tune)	1.0	20	fm broadcast	
88 - 108 (narrow tune)	0.5	24	fm broadcast	
97	0.5	24	nmr/mri	
108 - 136 (broad tune)	1.0	20	aircraft	
108 - 136 (narrow tune)	0.5	24	aircr af t	
120	0.5	24	nmr/mri	
128	0.5	24	nmr/mri	
136 - 138	0.5	24	weather satellite	
140 - 144	0.5	24	commercial	
144 - 148	0.5	24	amateur	
150 - 170 (broad tune)	1.0	20	commercial	
150 - 170 (narrow tune)	0.5	24	commercial	
170	0.5	24	nmr/mri	
174 - 180	0.5	22	television	
180 - 186	0.5	22	television	
186 - 192	0.5	22	television	
190 - 192 192 - 198	0.5	22	television	
192 - 190 200	0.5 0.5	22	nmr/mri	
200	0.0	~~	***************************************	

204 - 210	0.5	20	television
210 - 216	0.5	20	television
220 - 225	0.5	20	amateur
240 - 270 (broad tune)	1.0	15	military
240 - 270 (narrow tune)	0.5	20	military
300	0.5	18	remote control
340	0.5	18	nmr/mri
400	0.5	17	nmr/mri
400 - 420	0.5	17	commercial
420 - 450	0.5	17	amateur
440	0.5	17	military radar
450 - 470 (broad tune)	1.0	15	commercial
450 - 470 (narrow tune)	0.5	17	commercial
470 - 510 (broad tune)	1.0	15	commercial
470 - 510 (narrow tune)	0.5	17	commercial
470 - 722 (narrow tune)	0.6	15	television
800 - 890 (broad tune)	1.2	15	cellular/trunking
800 - 890 (narrow tune)	0.6	19	cellular/trunking
896 - 912	0.7	18	data transfer
900 - 950 (broad tune)	1.2	15	trunking/stl
900 - 960 (narrow tune)	0.7	18	trunking/stl

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High Performance Receive Only Broadband VHF/UHF Preamplifier



Features:

- Low noise figure
- High immunity to overload
- Completely shielded
- · Suitable for mast/tower mounting
- Small size
- · Rugged low profile custom enclosure

The P30-1000/11VD preamplifier has been designed for the most demanding amateur, commercial and military applications. Each model has been optimized for the lowest noise figure consistent with excellent strong signal handling capability. These preamplifiers are suitable for use in any receiver or converter/receiver system. Each preamplifier is housed in a rugged low profile custom aluminum enclosure finished with military grade black urethane enamel. Female BNC coaxial fittings are provided for the input and output connections. Other connectors or connector combinations are available. Complete rf shielding is maintained with a feedthrough capacitor for the dc power connection. Mounting holes, suitable for #4 hardware, are located at each corner of the bottom plate.

The P30-1000/11VD broadband preamplifier uses a low noise figure, high intercept point MMIC to obtain essentially flat performance characteristics across the frequency range. A +18 dBm (nearly 80 mW!), 1-dB compression specification means that overload should seldom be a problem even though the preamplifier does not employ a front-end filter. Use of a front-end filter would likely be required only in the most severe interference environments. These preamplifiers would be useful for improving receiver sensitivity throughout the vhf/uhf range. They would be particularly useful where broad vhf/uhf frequency ranges must amplified by a single preamplifier such as ahead of a broadband multicoupler, scanner receiver, spectrum analyzer, television receiver or a test receiver. In these applications single band GaAsFET preamplifiers, although lower in noise figure, may not be practical.

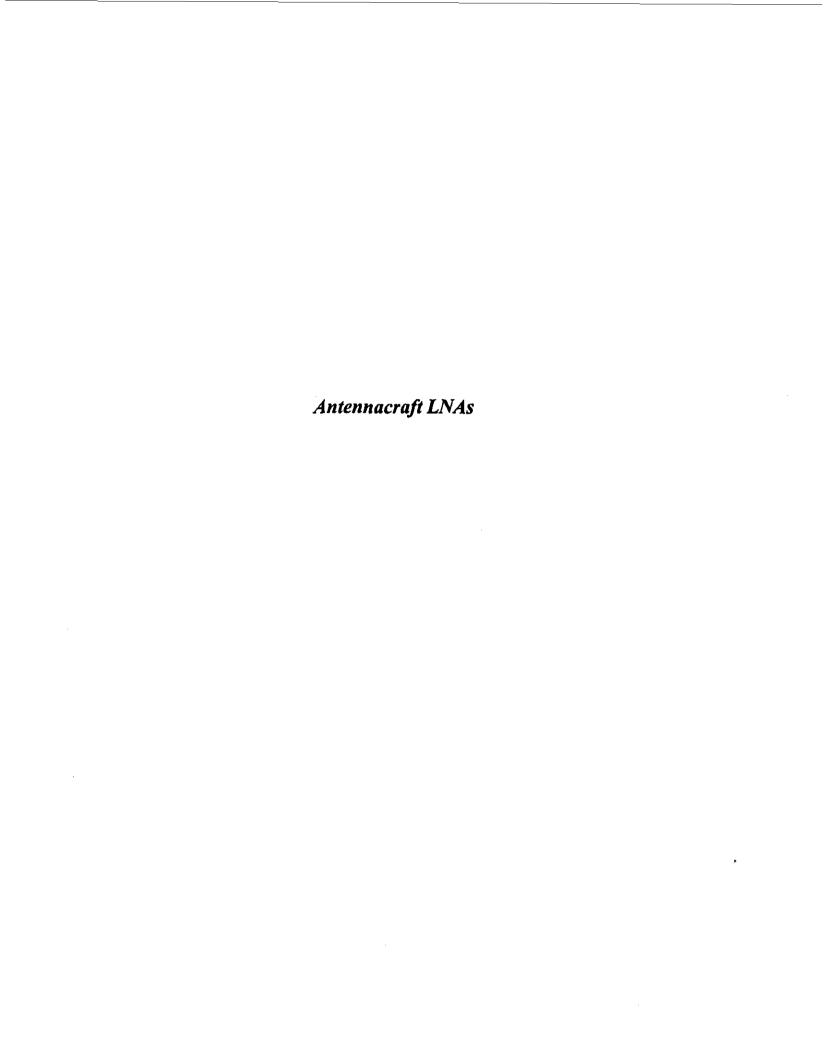
Extensive testing of this preamplifier on existing communications systems indicate that a signal-to-noise improvement of 6 - 14 dB can be expected. Each and every preamplifier is precision aligned on our noise figure measuring equipment and should provide long trouble free operation.

The P30-1000/11VD preamplifier is designed to be powered by a 11 - 16 volt dc source with a current consumption of 50 mA. Low power consumption along with the small size make these preamplifiers ideal for installation within existing equipment or systems, or for remote mounting at the antenna. Mounting the preamplifier at the antenna will provide the best system noise figure.

Specifications

Model	Freq. Range (MHz)	N.F. (dB)	Gain (dB)	1 dB Comp. (dBm)	1 dB Bandwidth (MHz)	Device Type	Price
P30-1000/11VD	30-1000	3.5	11	+18	900	MMIC	79.95
Supply voltage: 11 - 16 Vdc Supply current: 50 mA Weight: 2.0 oz. Dimensions: <u>outline drawing</u>		Prices shown for standard BNC connectors For custom frequency ranges see Special Frequency Ranges or contact factory					

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Antennacraft Pre-Amplifiers Amplify digital and analog VHF/UHF signals!

New

10G201 & 10G202 Premium-Grade Pre-Amplifiers

Featuring:

Split-Band VHF-UHF design

Internal RF shielding

High-quality transistors 10G201 High-Input Amplifier



10G202 High-Gain Amplifier



10G212 Adjustable-Gain Amplifier



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10G201 High Input Amplifier

Best in mixed signal areas where both strong and weak transmission signals are present!

Mast mounted with indoor power supply Avg.Gain: 16dB VHF, 22dB UHF Noise Figure: <3.0dB VHF, < 2.6dB UHF High Input level capacity Surface-mount design Switchable FM trap One combined VHF/UHF 75 ohm input/output UL isted, AC operation Meets CEA specs for amplifiers List Price \$54.88

10G202 High Gain Amplifier

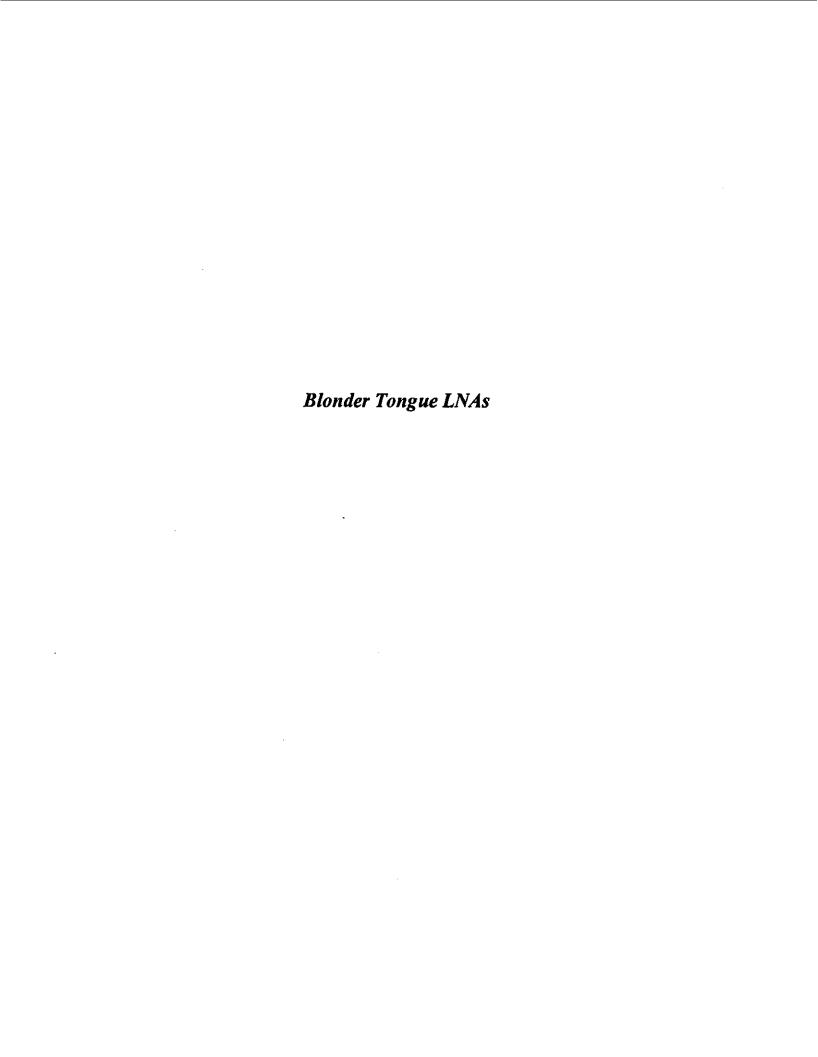
Best in deep fringe areas where all transmissions are weak!

Avg.Gain: 29 dB UHF/VHF
Mast mounted with indoor power supply
Noise Figure: <3.0dB VHF, < 2.6dB UHF
Surface-mount design
Switchable FM trap
Power LED on power supply
One combined VHF/UHF 75 ohm
input/output
UL listed, AC operation
Meets CEA specs for amplifiers
List Price \$62.38

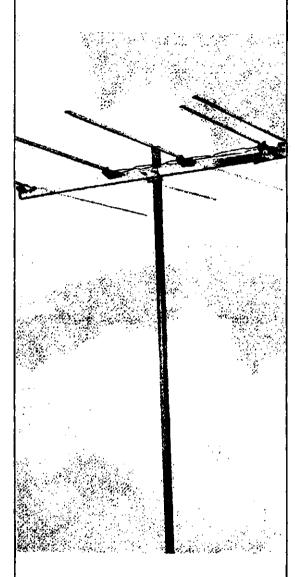
10G212 Adjustable Gain Amplifier

Allows customer the ability to adjust gain based on intended application!

Avg.Gain: 30dB UHF/VHF
Adjustable Gain Control: up to 15dB
Mast mounted with indoor power supply
Noise Figure: <4.0dB VHF,<3.5dB UHF
Remote Switchable FM trap
Surface Mount design
One combined VHF/UHF 75 ohm
input/output
UL listed, AC operation
List Price \$33.63



Reception Products





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